



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

NOTE ON THE BEHAVIOR OF THE ZINC LINES IN CERTAIN
STELLAR SPECTRA

Russell has called attention to the bearing of the theory of ionization on the weakening of the zinc lines in the spectrum of sun-spots. The ionization potential of zinc is high, being 9.4 volts for first-step ionization. Accordingly the lines of zinc are weakened in passing from the higher temperature of the Sun's reversing layer to the lower temperature of sun-spots.

An examination of spectra of *Sirius*, *Procyon*, and *Arcturus* taken with high dispersion indicates results in agreement with the theory of ionization. The lines of the zinc triplet in the blue, $\lambda\lambda$ 4680, 4722, and 4810, when compared with neighboring arc lines of iron, show their greatest relative intensity in *Sirius*, are prominent in *Procyon* and become somewhat less strong in *Arcturus* than in the solar spectrum. This progression is in conformity with the progression in the temperatures of these stars.

W. S. ADAMS,
A. H. JOY.

THE PARALLAX OF β G. C. 4414

One of the most serious outstanding differences between the spectrographic and trigonometric parallaxes given in the list of 1646 stars¹ is that for the star C 955 = β . G. C. 4414 = Lal. 15743. ($\alpha = 7^h 58^m.8$, $\delta = +12^\circ 35'$, 8.6 Ko). In checking the results for this star it was found that an error in its position in our observing books was responsible for the fact that B. D. + 12° 1762 = H. D. 66637, ($\alpha = 7^h 59^m.4$, $\delta = +12^\circ 29'$, 8.5, Ko) was really taken instead. Exposures made with the corrected position show that β . G. C. 4414 AB has the spectrum of a dwarf star with absolute magnitude estimated to be 5.9, and type G 9. It is a triple star composed of a close pair of equal stars of combined magnitude 7.9 and a third star of 10th magnitude at a distance of 5". The proper motion is 0".141. Using 8.6 as the apparent magnitude of each of the two brighter stars we find the parallax to be 0".029. The trigonometric parallax determined at the Sproul Observatory is 0".088, and two values for the hypothetical parallax calculated from the elements of the orbit are 0".069 and 0".051.

W. S. ADAMS,
A. H. JOY.

¹Mount Wilson Contribution, No. 199; *Astrophys. Jour.*, **53**, 13, 1921.